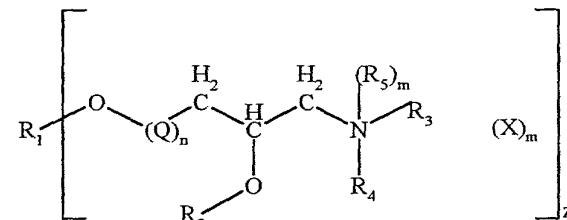


CLAIMS

What is claimed is:

1 1. A composition of matter comprising a compound of the structural formula:



wherein

R₁ is C₈ to C₂₂ alkyl, C₈ to C₂₂ alkenyl, C₈ to C₂₂ ester alkyl, C₈ to C₂₂ ester alkenyl, C₈ to C₂₂ amido alkyl, or C₈ to C₂₂ amido alkenyl;

Q is C_pH_{2p}O;

n is an integer of from 0 to 60;

p is an integer of from 2 to 4;

R₂ is hydrogen, alkyl or ester alkyl of from 1 to 22 carbon atoms, or Q₁;

Q₁ is (C_pH_{2p}O)_{n1}H;

R₃ is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q₂;

Q₂ is (C_pH_{2p}O)_{n2}H;

R₄ is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q₃;

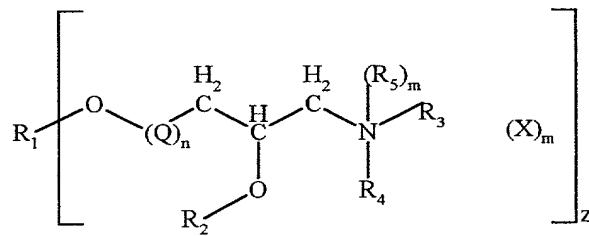
Q₃ is (C_pH_{2p}O)_{n3}H;

R₅ is hydrogen, alkyl of from 1 to 22 carbon atoms, oxygen, betaine, amido amine, polyamine, polyamine alkoxylate, fatty amine, or Q₄;

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21 Q_4 is $(C_pH_{2p}O)_{n4}H$;
22 n1, n2, n3, and n4 are independently selected from the group consisting of integers of from 1
23 to 60;
24 X is a counterion selected from the group consisting of species generated from mineral or
25 organic acids;
26 m is 0 or 1; and
27 z is 1 to 4.

2. A method of making a compound of the structural formula:



7 wherein
8 R_1 is C_8 to C_{22} alkyl, C_8 to C_{22} alkenyl, C_8 to C_{22} ester alkyl, C_8 to C_{22} ester alkenyl, C_8 to C_{22}
9 amido alkyl, or C_8 to C_{22} amido alkenyl;
10 Q is $C_pH_{2p}O$;
11 n is an integer of from 0 to 60;
12 p is an integer of from 2 to 4;
13 R_2 is hydrogen, alkyl or ester alkyl of from 1 to 22 carbon atoms, or Q_1 ;
14 Q_1 is $(C_pH_{2p}O)_{n1}H$;
15 R_3 is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q_2 ;

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16 Q_2 is $(C_pH_{2p}O)_{n2}H$;

17 R_4 is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q_3 ;

18 Q_3 is $(C_pH_{2p}O)_{n3}H$;

19 R_5 is hydrogen, alkyl of from 1 to 22 carbon atoms, oxygen, betaine, amido amine, polyamine,

20 polyamine alkoxylate, fatty amine, or Q_4 ;

21 Q_4 is $(C_pH_{2p}O)_{n4}H$;

22 $n1$, $n2$, $n3$, and $n4$ are independently selected from the group consisting of integers of from 1
23 to 60;

24 X is a counterion selected from the group consisting of species generated from mineral or
25 organic acids;

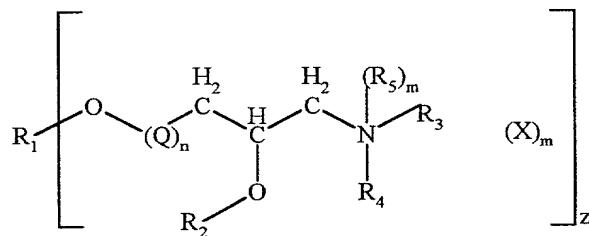
26 m is 0 or 1; and

27 z is 1 to 4;

28 wherein the method comprises reacting a first compound selected from the group consisting of
29 alcohols, alcohol alkoxylates, amidoalcohols, amidoalcohol alkoxylates, amidoamines,
30 amidoamine alkoxylates, fatty acids, fatty acid alkoxylates, and mixtures thereof with
31 epichlorohydrin under acidic or basic conditions to produce a glycidyl ether or a glycidyl ester;
32 then reacting the glycidyl ether or glycidyl ester with a second compound selected from the
33 group consisting of amines, amidoamines, amidoamine alkoxylates, and amine alkoxylates to
34 produce a desired compound.

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1 3. An article of manufacture comprising a compound of the structural formula:



wherein

R1 is C8 to C22 alkyl, C8 to C22 alkenyl, C8 to C22 ester alkyl, C8 to C22 ester alkenyl, C8 to C22 amido alkyl, or C8 to C22 amido alkenyl;

Q is C_pH_{2p}O;

n is an integer of from 0 to 60;

p is an integer of from 2 to 4;

R2 is hydrogen, alkyl or ester alkyl of from 1 to 22 carbon atoms, or Q1;

Q1 is (C_pH_{2p}O)_{n1}H;

R3 is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q2;

Q2 is (C_pH_{2p}O)_{n2}H;

R4 is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q3;

Q3 is (C_pH_{2p}O)_{n3}H;

R5 is hydrogen, alkyl of from 1 to 22 carbon atoms, oxygen, betaine, amido amine, polyamine, polyamine alkoxylate, fatty amine, or Q4;

Q4 is (C_pH_{2p}O)_{n4}H;

n1, n2, n3, and n4 are independently selected from the group consisting of integers of from 1 to 60;

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24 X is a counterion selected from the group consisting of species generated from mineral or
25 organic acids;
26 m is 0 or 1; and
27 z is 1 to 4.

1 4. The article of manufacture of claim 3 wherein said article is an agricultural formulation.

1 5. The article of manufacture of claim 3 wherein said article is selected from the group
2 consisting of hand detergent bars, hair shampoos, rug shampoos, and hand dishwashing
3 detergents.

1 6. The article of manufacture of claim 3 wherein said article is an industrial and
2 institutional cleaner.